

WHAT IS CLAIMED IS:

1. An interactive graphical front end trading system for use in trading securities through established security trading markets, in real time, where the system comprises a grid based graphical user interface for use by any trader; said system being adapted for communication between any trader and any of a plurality of market trading participants through communication channels between a computer at said trader's location middleware between said trader and any market trading participant, and backend systems used by any market trading participants;

wherein said graphical user interface for each trader is adapted to receive market data through said communications channels and said middleware from a plurality of market trading participants, in real time; and wherein any trader may select any particular security or group of securities for which data are electively required, at any instant in time;

wherein said graphical user interface comprises processor means that functions to send transaction instructions through a communication channel to a backend system of any market trading participant, and to receive messages back from any market trading participant through said middleware and said communication channels; and wherein said graphical user interface further comprises further processor means that functions to receive, process, and present said messages, and market data, to any trader;

wherein said messages and market data comprise information chosen from the group of information data consisting of: order data as to buy, sell, or other trading orders existing at that instant in time for any selected security or group of securities, quote data as to bid and ask prices for any security or group of security, volume data as to trading activity of any security or group of securities, index data, market information as to news or charts concerning any security or group of securities, and combinations thereof;

wherein said messages and market data are transmitted to said grid based graphical user interface from said backend systems of any market trading participant in computer-readable electronic format;

wherein upon receipt of said market data, said graphical user interface for any trader applies processor means that function to transform said market data, at any instant in time, into a

graphical representation for display on a display device, which display comprises at least one grid comprising a plurality of cells;

wherein any selected cell displays specific market data, and the market data displayed in any one cell differs from the market data displayed in any other cell;

5 wherein said plurality of cells on said grid is presented in a grid display chosen from the group consisting of a plurality of rows and at least one column, a plurality of columns and at least one row, and a plurality of rows and a plurality of columns;

10 wherein a plurality of rows or a plurality of columns has an axis along which each selected cell indicates a price or price range for which market data exists, and wherein a second axis is established for at least one column or row is indicative of a specific criterion chosen from a plurality of selected criteria within which said market data may be categorized as to price or price range;

15 wherein any selected cell of said plurality of cells represents specific market data chosen from the group of data consisting of buy, sell, or other trading order for any security or group of securities, quote data as to bid and ask prices for any security or group of securities;

wherein any selected cell is electively linked to a selected parameter or group of parameters associated with said specific market data;

20 wherein said graphical user interface grid display further comprises at least one further data entry activator chosen from the group consisting of graphical buttons, transaction icons, data entry fields, and combination thereof; and

25 wherein any trader can execute or alter any trading order for a selected security or group of securities being displayed at that instant in time by an action chosen from the group of actions consisting of: clicking on a selected cell, moving a cursor or pointing a device over a selected cell and dragging that cell to said at least one data entry activator, dragging said at least one data entry activator over a selected cell, right clicking on a selected cell so as to reveal any selected parameters electively linked thereto and choosing a selected parameter, and combinations thereof.

2. The interactive graphical front end trading system of claim 1, wherein any selected cell in said plurality of cells is assigned specific visual or graphical attributes or properties chosen

from the group of graphical or visual attribution or properties consisting of: color, border, label indicator, graphic overlay, text overlay, and combinations thereof;

wherein the specific attribute or property assigned to any selected cell is a function of the specific market data associated therewith.

3. The interactive graphical front end trading system of claim 1, wherein an existing trading order display in a selected cell on said grid is electively changed by a trader by dragging the selected cell to a new location on said grid display;

wherein said new location is linked to processor means that functions to alter a specific parameter associated with that trading order.

4. The interactive graphical front end trading system of claim 3, wherein said selected cell and said new location are electively altered as to their graphical or visual attributes or properties; and

wherein said altered graphical or visual attributes or properties are chosen from the group of graphical or visual attributes or properties consisting of: color, border, label indicator, graphic overlay, text overlay, and combinations thereof.

5. The interactive graphical front end trading system of claim 1, wherein said trading data is presented in a plurality of rows and a plurality of columns; and

wherein each selected cell, and each trading order transaction, is linked to a respective one of a set of GUI objects which are included in said software at said graphical user interface at each said trader.

6. The interactive graphical front end trading system of claim 1, wherein said system further comprises protocol translators for translating the data and instructions sent over any communications channel into a language which is understood by a computer at any trader's location, or at any market trading participant's location.

7. The interactive graphical front end trading system of claim 1, wherein said system server has logical components therein to execute any trading order instruction issued thereto from a trader, or from a market trading participant.
8. The interactive graphical front end trading system of claim 1, wherein said graphical user interface for any trader has a local database relevant to that trader.
9. The interactive graphical front end trading system of claim 1, wherein said system server has a central database relevant to the system.
10. The interactive graphical front end trading system of claim 1, wherein a selected security for which said trading data is displayed at any instant in time may be changed to another selected security by said software at each trader's location, at intervals selected by that trader.
11. The interactive graphical front end trading system of claim 1, wherein the trading data for any selected security for which the securities data is being displayed at any instant in time by any trader is constantly updated by being refreshed having regard to new trading data being received by the graphical user interface for that selected security.
12. The interactive graphical front end trading system of claim 1, wherein any backend system which is used by any market trading participant will perform at least the following tasks: account management for each trading account being handled by that market trading participant; processing trading orders for each transaction which that market trading participant undertakes to perform; order execution, whereby each transaction which that market trading participant undertakes to perform, is executed; datafeed handling, whereby the data concerning any trading order being handled by that market trading participant for any selected security is fed to said system server for dissemination on request to any trader; and system management for purposes of maintaining security and operation of the respective backend system of that market trading participant.

13. The interactive graphical front end trading system of claim 9, wherein each market trading participant is chosen from the group consisting of stock brokers, approved electronic communication network trading systems (ECN's), stock exchanges, commodity exchanges, futures exchanges, bourses, and auction servers.

14. The interactive graphical front end trading system of claim 1, wherein each selected security for which trading data is displayed is chosen from the group consisting of shares, commodities, futures, derivatives, puts, calls, and other share based options or contracts, and objects that are being sold at auction over internet-based auction systems.

15. The interactive graphical front end trading system of claim 1, wherein said data communications over said communications channels are in keeping with selected protocols which are established to standardize data interchange format between respective parties communicating over any respective communications channel, using secure data encryption modes.

16. The interactive graphical front end trading system of claim 9, wherein the backend system of any market trading participant further comprises a middleware system whose purposes include the following tasks: connection pooling, whereby securities data to and from that market trading participant is pooled and controlled so as to maintain the integrity thereof; an application server to assure access by the backend system to required software in order to perform any required function intended to be carried out by that market trading participant; and security management, whereby the security of the backend system against unwanted hacker intrusion is assured.

17. The interactive graphical front end trading system of claim 1, wherein data concerning any security holding which is held by any trader is represented on the display for that respective trader by at least one icon which is linked to a respective GUI object in the software at that trader's graphical user interface.

Physical Properties		Chemical Properties		Mechanical Properties		Thermal Properties		Electrical Properties	
Property	Value	Property	Value	Property	Value	Property	Value	Property	Value
Density	1.25 g/cm ³	Viscosity	0.5 Pa·s	Tensile Strength	10 MPa	Softening Point	150 °C	Volume Resistance	10 ¹² Ω·cm
Refractive Index	1.50	Surface Tension	35 mN/m	Elongation at Break	500%	Thermal Stability	200 °C	Surface Resistance	10 ¹⁰ Ω
Thermal Conductivity	0.2 W/m·K	Flash Point	100 °C	Modulus of Elasticity	1 GPa	Decomposition Temp	250 °C	Dielectric Constant	2.5
Specific Heat	1.5 J/g·K	Autoignition Temp	200 °C	Poisson's Ratio	0.3	Weight Loss (%)	10	Dielectric Loss	0.01
Thermal Expansion	100 ppm/K	Limiting Oxygen Index	0.2	Impact Strength	5 kJ/m ²	Char Yield (%)	10	Volume Resistance	10 ¹² Ω·cm
Thermal Contraction	-100 ppm/K	Heat of Combustion	40 kJ/g	Hardness	50 Shore A	Residual Char (%)	5	Surface Resistance	10 ¹⁰ Ω
Thermal Degradation	100 ppm/K	Heat of Formation	100 kJ/g	Compression Modulus	1 GPa	Residual Ash (%)	5	Dielectric Constant	2.5
Thermal Oxidation	100 ppm/K	Heat of Polymerization	100 kJ/g	Flexural Modulus	1 GPa	Residual Sulfur (%)	5	Dielectric Loss	0.01
Thermal Reduction	100 ppm/K	Heat of Crystallization	100 kJ/g	Flexural Strength	10 MPa	Residual Nitrogen (%)	5	Volume Resistance	10 ¹² Ω·cm
Thermal Nitration	100 ppm/K	Heat of Fusion	100 kJ/g	Flexural Elongation	500%	Residual Oxygen (%)	5	Surface Resistance	10 ¹⁰ Ω
Thermal Sulfonation	100 ppm/K	Heat of Polymerization	100 kJ/g	Flexural Modulus	1 GPa	Residual Hydrogen (%)	5	Dielectric Constant	2.5
Thermal Phosphorylation	100 ppm/K	Heat of Crystallization	100 kJ/g	Flexural Strength	10 MPa	Residual Carbon (%)	5	Dielectric Loss	0.01
Thermal Fluorination	100 ppm/K	Heat of Fusion	100 kJ/g	Flexural Elongation	500%	Residual Nitrogen (%)	5	Volume Resistance	10 ¹² Ω·cm
Thermal Chlorination	100 ppm/K	Heat of Polymerization	100 kJ/g	Flexural Modulus	1 GPa	Residual Oxygen (%)	5	Surface Resistance	10 ¹⁰ Ω
Thermal Bromination	100 ppm/K	Heat of Crystallization	100 kJ/g	Flexural Strength	10 MPa	Residual Hydrogen (%)	5	Dielectric Constant	2.5
Thermal Iodination	100 ppm/K	Heat of Fusion	100 kJ/g	Flexural Elongation	500%	Residual Carbon (%)	5	Dielectric Loss	0.01
Thermal Nitrosation	100 ppm/K	Heat of Polymerization	100 kJ/g	Flexural Modulus	1 GPa	Residual Nitrogen (%)	5	Volume Resistance	10 ¹² Ω·cm
Thermal Sulfonation	100 ppm/K	Heat of Crystallization	100 kJ/g	Flexural Strength	10 MPa	Residual Oxygen (%)	5	Surface Resistance	10 ¹⁰ Ω
Thermal Phosphorylation	100 ppm/K	Heat of Fusion	100 kJ/g	Flexural Elongation	500%	Residual Hydrogen (%)	5	Dielectric Constant	2.5
Thermal Fluorination	100 ppm/K	Heat of Polymerization	100 kJ/g	Flexural Modulus	1 GPa	Residual Carbon (%)	5	Dielectric Loss	0.01
Thermal Chlorination	100 ppm/K	Heat of Crystallization	100 kJ/g	Flexural Strength	10 MPa	Residual Nitrogen (%)	5	Volume Resistance	10 ¹² Ω·cm
Thermal Bromination	100 ppm/K	Heat of Fusion	100 kJ/g	Flexural Elongation	500%	Residual Oxygen (%)	5	Surface Resistance	10 ¹⁰ Ω
Thermal Iodination	100 ppm/K	Heat of Polymerization	100 kJ/g	Flexural Modulus	1 GPa	Residual Hydrogen (%)	5	Dielectric Constant	2.5
Thermal Nitrosation	100 ppm/K	Heat of Crystallization	100 kJ/g	Flexural Strength	10 MPa	Residual Carbon (%)	5	Dielectric Loss	0.01
Thermal Sulfonation	100 ppm/K	Heat of Fusion	100 kJ/g	Flexural Elongation	500%	Residual Nitrogen (%)	5	Volume Resistance	10 ¹² Ω·cm
Thermal Phosphorylation	100 ppm/K	Heat of Polymerization	100 kJ/g	Flexural Modulus	1 GPa	Residual Oxygen (%)	5	Surface Resistance	10 ¹⁰ Ω
Thermal Fluorination	100 ppm/K	Heat of Crystallization	100 kJ/g	Flexural Strength	10 MPa	Residual Hydrogen (%)	5	Dielectric Constant	2.5
Thermal Chlorination	100 ppm/K	Heat of Fusion	100 kJ/g	Flexural Elongation	500%	Residual Carbon (%)	5	Dielectric Loss	0.01
Thermal Bromination	100 ppm/K	Heat of Polymerization	100 kJ/g	Flexural Modulus	1 GPa	Residual Nitrogen (%)	5	Volume Resistance	10 ¹² Ω·cm
Thermal Iodination	100 ppm/K	Heat of Crystallization	100 kJ/g	Flexural Strength	10 MPa	Residual Oxygen (%)	5	Surface Resistance	10 ¹⁰ Ω
Thermal Nitrosation	100 ppm/K	Heat of Fusion	100 kJ/g	Flexural Elongation	500%	Residual Hydrogen (%)	5	Dielectric Constant	2.5
Thermal Sulfonation	100 ppm/K	Heat of Polymerization	100 kJ/g	Flexural Modulus	1 GPa	Residual Carbon (%)	5	Dielectric Loss	0.01
Thermal Phosphorylation	100 ppm/K	Heat of Crystallization	100 kJ/g	Flexural Strength	10 MPa	Residual Nitrogen (%)	5	Volume Resistance	10 ¹² Ω·cm
Thermal Fluorination	100 ppm/K	Heat of Fusion	100 kJ/g	Flexural Elongation	500%	Residual Oxygen (%)	5	Surface Resistance	10 ¹⁰ Ω
Thermal Chlorination	100 ppm/K	Heat of Polymerization	100 kJ/g	Flexural Modulus	1 GPa	Residual Hydrogen (%)	5	Dielectric Constant	2.5
Thermal Bromination	100 ppm/K	Heat of Crystallization	100 kJ/g	Flexural Strength	10 MPa	Residual Carbon (%)	5		

wherein, in each instance, each additional icon is linked to a respective further GUI object in the software at the trader's graphical user interface.

21. The interactive graphical front end trading system of claim 2, wherein the respective data being displayed in any selected cell comprises a plurality of specific components relating to selected parameters surrounding that data.

23. The interactive graphical front end trading system of claim 2, wherein a selected quantity of the best buy orders and a selected quantity of the best sell orders, which are being posted by a selected market trading participant for a selected security, are displayed.

28. The interactive graphical front end trading system of claim 27, wherein said standard protocol is based on the eXtensible Markup Language (XML).
29. The interactive graphical front end trading system of claim 24, wherein each of said input parameters, and each of the return value items, is linked to a respective GUI object in the software at any trader's graphical user interface.
30. The interactive graphical front end trading system of claim 2, wherein a plurality of grids of rows and columns of data are graphically presented on a plurality of graphical tabbed pages, wherein each page is selected by clicking on its respective tab.
31. The interactive graphical front end trading system of claim 26, wherein a transaction may be effected by dragging and dropping an icon which is representative of a specific trading instruction, from one tabbed page on said display to another tabbed page.
32. The interactive graphical front end trading system of claim 1, wherein a transaction which changes a previous instructed transaction is handled by said transaction software, so as to appear to said trader as a single transaction.
33. The interactive graphical front end trading system of claim 1, wherein any trading order transaction may be effected by dropping an icon which is representative of the specific transaction onto a selected cell, whereby said transaction software will issue a respective transaction instruction through a respective communication channel to a respective market trading participant.
34. The interactive graphical front end trading system of claim 29, wherein any trading order transaction which has been placed but not yet effected, may be cancelled by dragging the respective icon away from its respective selected cell.

35. The interactive graphical front end trading system of claim 1, wherein the price value for each row is selectively adjustable as to the price or price range being represented by that row, and as to the relative position of any row with respect to any other row, along an axis thereof.
36. The interactive graphical front end trading system of claim 31, wherein the adjustment of the price value, and the adjustment of the relative position for each row, along the axis thereof, is under the control of said data handling software.
37. The interactive graphical front end trading system of claim 32, wherein the range of price values for all of the rows along the axis thereof which are displayed, and the price value for a selected row, is determined for each selected security at any instant in time as a factor of one of the criteria chosen from the group consisting of: the last closing price for that security, the opening price for that security, the highest price paid for that security, the highest price bid for that security, the lowest price paid for that security, the lowest price bid for that security, and the last price paid for that security.
38. The interactive graphical front end trading system of claim 1, wherein the criterion for said at least one column is chosen from the group consisting of: the identity of a market trading participant, aggregate trading order data from a plurality of market trading participants, aggregate buy order data from a plurality of trading participants, and aggregate sell order data from a plurality of trading participants.
39. The interactive graphical front end trading system of claim 1, wherein said display further includes a display page for an integrated chat session.
40. The interactive graphical front end trading system of claim 1, wherein said graphical user interface for any trader has memory means associated therewith, wherein all securities data for any selected security, at a series of selected time intervals, is stored in said memory; whereby a

replay function for said data, to recall said data during a selected time period, may be selectively invoked by said trader.

41. The interactive graphical front end trading system of claim 1, further comprising software whose purpose is to review and weigh a trader's cash position and portfolio, so as to make a recommendation for a trading order for a selected security, at any instant in time, where the recommendation is a factor of at least the bid and ask prices for that security at that instant in time.

42. The interactive graphical front end trading system of claim 1, wherein the graphical display at any trader's location includes Nasdaq Level II data for a selected security at any instant in time; and

wherein said Nasdaq Level II data includes data which is chosen from the group consisting of: the identity of each market trading participant whose data is being displayed, the last price paid, the change between the last price paid and the previous price paid, the percentage change between the last price paid and the previous price paid, the current bid price, the current ask price, the highest price paid within a predetermined period of time, the number of shares traded in the last trade, the number of shares traded during a current trading session, the number of trades during the current trading session, the number of current bidders, the number of current sellers, and the lowest price paid within a predetermined period of time.

43. The interactive graphical front end trading system of claim 1, wherein any of said rows and said at least one column has a graphical control button associated therewith, whereby the status thereof may be changed under the control of said data handling software.

44. The interactive graphical front end trading system of claim 1, wherein a specific color is assigned for each different type of trading order data which is displayed in any selected cell.